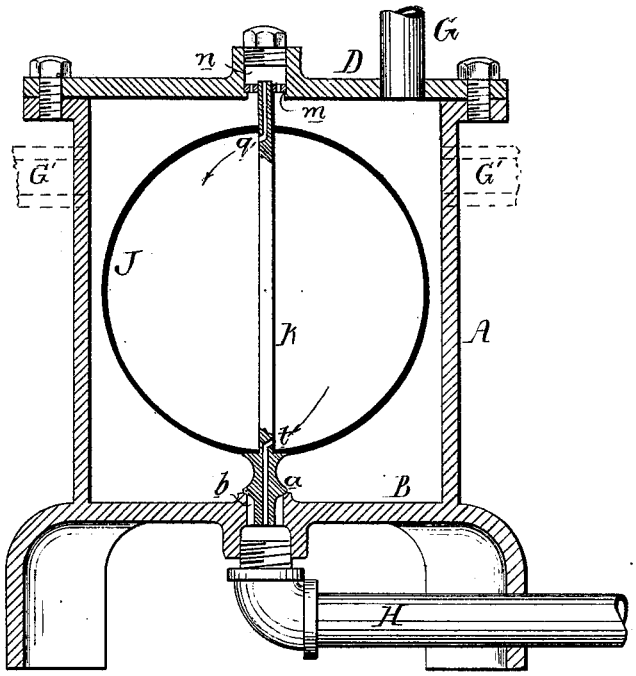
W. CONNER.
Steam-Trap.

No. 195,984. Patented Oct. 9, 1877.



Witnesses
Henry Howson Jr.
Harry Smith

Inventor
William Conner
by his Attorneys
Howson and Sons

UNITED STATES PATENT OFFICE.

WILLIAM CONNER, OF WILMINGTON, DELAWARE, ASSIGNOR OF ONE-HALF HIS RIGHT TO ASA O. DENIO, OF SAME PLACE.

IMPROVEMENT IN STEAM-TRAPS.

Specification forming part of Letters Patent No. **195,984**, dated October 9, 1877; application filed February 26, 1877.

To all whom it may concern:

Be it known that I, WILLIAM CONNER, of Wilmington, Delaware, have invented a new and useful Improvement in Steam-Traps, of which the following is a specification:

My invention relates to an improvement in that class of steam-traps in which a float connected to a valve is contained within the chest for the purpose of causing the escape of the accumulated water of condensation, and for closing the outlet after this water has been discharged; the object of my invention being to insure the efficient and sensitive action of the float by admitting steam to the interior of the same.

The accompanying drawing represents a vertical section of my improved steam-pipe.

A is the exterior casing of the trap; B, the base, and D the detachable cover. Steam is admitted to the interior of the trap from the system of steam-heating pipes through the pipe G, and the water of condensation is carried off through a pipe, H. J is a hollow float, preferably of spherical form, and made of copper, this float being attached to a tubular spindle, K, provided with a valve, *a*, adapted to a seat on the edge of the central opening *b* in the base B, the said opening communicating with the waste-pipe H.

The upper end of the tubular spindle K passes through and is guided by a strip, *m*, extending across an opening, *n*, in the cover D, the said opening being closed by a screw-plug or otherwise.

The guiding-strip *m* may consist of a bar extending across the opening *n*, or it may be a perforated plate, so that the steam in the trap may gain access to the upper end of the tubular spindle, and through the latter to the interior of the float by a lateral orifice, *q*, forming a communication between the interior of the spindle and interior of the float, and another lateral opening, *t*, permitting the water of condensation within the float to pass through the valve *a* into the waste-pipe.

When the water of condensation has reached a given altitude in the trap the float will rise, and the valve *a* will be elevated above its seat until the water escapes, when the valve will be closed.

After many experiments with traps of this class I have ascertained that the admission of steam to the interior of the float insures its sensitive and effective action; hence the tubular spindle and its orifices, by means of which the same pressure of steam is maintained within as without the float.

In some cases the steam may be permitted to pass through the casing instead of being confined therein, two pipes, G G′, extending from opposite sides of the casing, as shown by dotted lines, being substituted for the single pipe G in such case, one pipe, G′, serving as an inlet and the other as an outlet pipe for the steam.

I claim as my invention—

1. A steam-trap consisting of a casing, A, with a suitable inlet and outlet, a valve, *a*, hollow float J, and provision for admitting the steam from the trap to the interior of the said float, all substantially as set forth.

2. The combination, in a steam-trap, of the float J with the valve *a*, tubular spindle K, and its inlets and outlets, all substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM CONNER.

Witnesses:

JOSEPH H. GOULD,

JNO. H. PUHL.